

IMPROVEMENT OF UNIVERSITY EDUCATION IN THE FIELD OF SUSTAINABILITY IN CONSTRUCTION AND INDUSTRY THROUGH INTERNATIONAL COOPERATION ACTIONS

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Abstract

The Energy Engineering Research Group (iENERGÍA) [1] of the University of Burgos is made up of researchers focused on subjects related to efficiency, energy saving and sustainability in construction and industry. They teach subjects related to these areas, in addition to mathematics and digitalization. They also collaborate with researchers from the University of the Basque Country in the field of teaching innovation.

They have been progressively implementing a teaching method based on problem-based learning (PBL), which moves away from the traditional approach of theoretical teaching, obtaining greater student involvement and better academic results.

In addition, they participate in two International Cooperation Agreements with the Chouaib Doukkali University (El Jadida) [2] and with the Abdelmalek Essaádi University (Tétouan) [3], both located in Morocco, and a Memorandum of Understanding with the Pusan National University [4], in South Korea. Thanks to them, it has been possible to develop actions such as the exchange of students and researchers, postgraduate training in Master and Doctorate, joint participation in research and technological development projects, the dissemination of the obtained research results, and the

promotion of the transition from the laboratory to open digital educational resources in engineering. In addition, it has made it easier for postgraduate students from Morocco to carry out the experimental part of their research in the facilities of the University of Burgos.

It can be concluded that the international cooperation actions carried out to improve teaching and research in matters related to sustainability in construction and industry and have met the stated objectives:

- The training of teaching staff and students in disciplines related to energy technologies.
- The contribution to the sustainable economic and social development of their region.
- Application of Active Learning Methodologies in engineering studies.
- Prevention and safety training for teachers and laboratory technicians focused on science and technology activities.
- Wide-ranging dissemination activity through scientific contributions to congresses and publications in leading scientific journals.

These actions are also aligned with several of the objectives of the 2030 Sustainable Development Agenda [5].

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